

**REMARKS**

Applicants' undersigned attorney thanks the Examiner for the Examiner's comments. Applicants respectfully request reconsideration of this patent application, particularly in view of the above Amendment and the following remarks. Currently, Claims 1-23 are pending.

**Amendment to the Claims**

Claims 1-23 have been examined, with no claims being allowed. Claims 1, 12, and 20 have been amended. No new matter has been added by this amendment.

Applicants have amended Claim 1 to include the limitation of about 0.59-4% by weight impact modifier. Support for this amendment is provided in the Examples on pages 13-26 of the specification, particularly in Tables 5-17.

Applicants have also amended Claim 1 to include ethylene-propylene monomer (EPM) and ethylene-propylene rubber (EPR), in addition to EPDM, to fully recite the class of materials often referred to collectively as "EPDM." Support for this amendment is provided in the attached product information sheet from Bayer, which indicates that the terms "ethylene-propylene-diene monomer," "ethylene-propylene monomer," and "ethylene-propylene rubber" are used interchangeably to describe the same class of materials. Bayer EPDM/EPM/EPR was used in the Examples on pages 13-26 of the specification, as indicated on page 13, line 10. Although the Bayer product information sheet does not have a date on it, Applicants have been working with EPDM materials for a number of years and can attest to the consistency in the ethylene content of these materials throughout the years.

Applicants have amended Claim 12 to remove EPDM from the Markush group.

Applicants have amended Claim 20 to include the explicit limitation of the impact modifier having elastomeric properties. Support for this amendment is provided at page 7, lines 5-6, of the specification.

No additional fee is due for this Amendment because the number of independent claims remains unchanged and the total number of claims also remains unchanged.

### **Claim Rejections - 35 U.S.C. §102**

The rejection of Claims 1-5, 7, 9-10, 12-13, 15, 17-18, and 20-22 under 35 U.S.C. §102(b) as being anticipated by Ogale et al. (U.S. Patent 5,346,756) is respectfully traversed, particularly in view of the above Amendment and the following remarks.

Ogale et al. disclose a nonwoven textile material made up of fibers including a blend of a propylene polymer material (A) and an olefin polymer material (B). The olefin polymer material (B) may be a propylene polymer composition consisting essentially of: (a) from 10 to 50% of a propylene polymer having an isotactic index of greater than 80, or a copolymer of propylene with ethylene or a C<sub>4</sub>-C<sub>8</sub> alpha-olefin or combinations thereof, containing over 80% propylene and having an isotactic index greater than 80, (b) from 5 to 20% of a semi-crystalline copolymer fraction, which copolymer is insoluble in xylene at room or ambient temperature, and (c) from 40 to 80% of a copolymer fraction of ethylene with propylene or a C<sub>4</sub>-C<sub>8</sub> alpha-olefin or combinations thereof, and optionally with minor amounts of a diene, said copolymer fraction containing less than 40% ethylene or a C<sub>4</sub>-C<sub>8</sub> alpha-olefin or combinations thereof, being soluble in xylene at room temperature and having an intrinsic viscosity from 1.5 to 4 dl/g, wherein the total of the (b) and (c) fractions, based on the total olefin polymer composition, being from about 50% to 90%, and the weight ratio of (b)/(c) being less than 0.4.

For a reference to anticipate a claim, the reference must disclose each and every element or limitation of the claim. Ogale et al. do not disclose each and every element or limitation of independent Claims 1, 12, and/or 20.

Applicants' invention as recited in independent Claim 1 requires that the impact modifier is limited to about 0.59% to about 4% by weight of the textile fiber. The Examiner points out that Ogale et al. disclose fibers comprising 90-70% weight of propylene and 10-30% weight of ethylene-propylene copolymer. Ogale et

al. also disclose fibers made up of 5 to about 95% component (A), which means that component (B) must account for *at least 5%* of the fiber. The Examiner suggests that component (B) is the equivalent of an impact modifier. Even assuming that to be the case, the amount of impact modifier recited in Applicants' Claim 1 (0.59-4%) is far less than the amount of any impact modifier component disclosed by Ogale et al.

In Ogale et al., the propylene polymer material and the olefin polymer material are prepared by polymerization, generally by sequential polymerization in the case of the olefin polymer material, of the relevant monomers in the presence of a stereospecific Ziegler-Natta catalyst system having a solid catalyst component supported on a magnesium dihalide in active form. As evidenced by Schmidt et al. (U.S. Patent No. 5,804,658), polymerization of a mixture of ethylene, propylene, and a diene in the presence of a Ziegler-Natta catalyst system would result in an EPDM rubber. However, Ogale et al. disclose sequential polymerization of more than just ethylene, propylene, and a diene. More particularly, Ogale et al. disclose polymerization of a propylene polymer having an isotactic index of greater than 80, or a copolymer of propylene with ethylene or a C<sub>4</sub>-C<sub>8</sub> alpha-olefin or combinations thereof, containing over 80% propylene and having an isotactic index greater than 80, a semi-crystalline copolymer fraction, which copolymer is insoluble in xylene at room or ambient temperature, and a copolymer fraction of ethylene with propylene or a C<sub>4</sub>-C<sub>8</sub> alpha-olefin or combinations thereof, and optionally with minor amounts of a diene, said copolymer fraction containing less than 40% ethylene or a C<sub>4</sub>-C<sub>8</sub> alpha-olefin or combinations thereof. Thus, Ogale et al. fail to disclose EPDM per se.

Applicants' invention as recited in independent Claims 1, 12, and 20 requires that a fiber include polypropylene blended with an impact modifier, wherein the impact modifier has elastomeric properties. More particularly, in Claim 1 the impact modifier is either ethylene-propylene-diene-monomer (EPDM), ethylene-propylene monomer (EPM), ethylene-propylene rubber (EPR), styrene/ethylene-cobutadiene/styrene (SEBS), styrene-poly(ethylene-propylene)-styrene-poly(ethylene-propylene) (SEPSEP), a multi-block elastomeric copolymer, polyurethane, polyamide, polyester, single-site or metallocene-catalyzed polyolefin having density less than about 0.89 grams/cc, or ethylene/styrene, while in Claim 12 the impact

modifier is either SEBS or SEPSEP, and in Claim 20 the impact modifier is either EPDM, SEBS, or SEPSEP.

Ogale et al. fail to disclose the combination of polypropylene blended with any impact modifier. In particular, Ogale et al. fail to disclose the combination of polypropylene blended with any of the impact modifiers recited in Claims 1, 12, and 20. As defined on page 7, lines 5-6, of the present application, and recited explicitly in Claim 20, the term “impact modifier” refers to “a synthetic material having elastomeric properties.” Ogale et al. fail to disclose a combination of polypropylene with a synthetic material having elastomeric properties.

The molecular structure of such block copolymers as SEBS and SEPSEP, for example, includes block segments of styrene monomer units and rubber monomer units. Prior to processing, polystyrene end-blocks are associated in rigid domains. “Physical crosslinking” via these domains yields a continuous three-dimensional network. During processing, in the presence of heat and shear or solvent, the polystyrene domains soften and permit flow. After cooling or solvent evaporation, the polystyrene domains reform and harden, locking the rubber network in place. This “physical crosslinking” and the reinforcing effect of the styrene domains give these polymers their high tensile strength. The rubber mid-block gives them their elasticity. Ogale et al. fail to disclose any olefin polymers having the elastomeric properties of EPDM, EPM, EPR, SEBS, and/or SEPSEP.

Furthermore, Ogale et al. disclose lower ethylene content random copolymers, whereas the present invention includes high ethylene content copolymers. More particularly, EPDM/EPM/EPR and the rubber monomer units of the elastomeric block copolymers typically include at least 40% ethylene, or more particularly between about 48% and about 72% ethylene for EPDM/EPM/EPR. In contrast, Ogale et al. disclose a random propylene terpolymer including from 1.5 to 5% ethylene (Col. 1, lines 43-46), or a propylene polymer composition including from 40 to 80% of a copolymer fraction that contains less than 40% ethylene (Col. 1, line 64 – Col. 2, line 12), such that the propylene polymer composition includes less than 16 to 32% ethylene. Consequently, the resulting material in Ogale et al. is quite different from the fibers of the present invention.

For at least the reasons presented above, Applicants respectfully submit that Claims 1, 12, and 20 are not anticipated by Ogale et al. Because Claims 2-5, 7, 9-10, 13, 15, 17-18, and 21-22 depend from Claims 1, 12, and 20, respectively, these claims are also not anticipated by Ogale et al. Thus, Applicants respectfully request withdrawal of this rejection.

### **Claim Rejections - 35 U.S.C. §103**

The rejection of Claims 6, 8, 11, 14, 16, 19, and 23 under 35 U.S.C. §103(a) as being unpatentable over Ogale et al., as applied to Claims 1, 12, 20, and 22 above, is respectfully traversed.

As mentioned above, Ogale et al. disclose a nonwoven textile material made up of fibers including a blend of a propylene polymer material and an olefin polymer material polymerized in the presence of a particular catalyst system, but fail to disclose the combination of polypropylene blended with the type or amount of impact modifier claimed in the present invention.

The Examiner suggests that it would have been obvious to one of ordinary skill in the art to have employed Ogale et al.'s textile fibers to form staple fibers, knit fabrics, or absorbent articles. However, since Ogale et al. fail to disclose or suggest any fibers including the combination of polypropylene blended with the type or amount of impact modifier recited in Claims 1, 12, and 20, it would, therefore, not be obvious to a person of ordinary skill in the art to form staple fibers, knit fabrics, absorbent articles, or any other applications, using a combination of polypropylene blended with an impact modifier having elastomeric properties, particularly 0.59-4% of an impact modifier, based on the teachings of Ogale et al.

For at least the reasons given above, Applicants respectfully submit that the teachings of Ogale et al. fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**Conclusion**

Applicants believe that this case is now in condition for allowance. If the Examiner feels that any issues remain, then Applicants' undersigned attorney would like to discuss the case with the Examiner. The undersigned can be reached at (847) 490-1400.

Respectfully submitted,



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